

**IN THE CLAIMS:**

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**Claims 1-15 (cancelled)**

**Claim 16 (new):** A method for the comparative determination of the heat changes caused by physical or chemical processes performed with the aid of catalysts arranged in the form of a catalyst library over the surface of a library plate, wherein a difference image is recorded using an infrared camera, wherein said image is obtained by a subtraction of the infrared emission recorded prior to the beginning of the processes from the infrared emission recorded during the course of the processes and wherein said library plate consists of slate.

**Claim 17 (new):** A method for recognizing the catalytic activity of materials of combinatorial libraries of catalysts, wherein:

an infrared camera with spatial resolution is used for the detection of heat changes;  
a difference heat image is recorded which results from the subtraction of the infrared emission intensities recorded prior to the beginning of the reaction from the intensities obtained under reaction conditions; and  
the support material for the catalyst library has an IR-reflectivity close to, at or below the IR-reflectivity of slate.

**Claim 18 (new):** A method according to claim 17, wherein the support material for the catalyst library is coated with a non-wetting infrared-transparent film in the regions not occupied by catalyst.

**Claim 19 (new):** A method according to claim 17 or 18, wherein the reactor comprises anti-reflection coatings.

**Claim 20 (new):** A method according to claim 17 or 18, wherein a wavelength specific infrared filter is used.

**Claim 21 (new):** A method according to claim 17, wherein an infrared transparent window is situated between the infrared camera and the catalysts.

**Claim 22 (new):** A method according to claim 17 or 18, wherein the catalyst components are carbides, nitrides or zeolites.

**Claim 23 (new):** A method according to claim 17, wherein the support material for the catalyst library contains reaction cavities comprising liquid reaction solutions with homogeneous catalysts.

**Claim 24 (new):** A method according to claim 23, wherein enzymes or soluble organometallic compounds are employed as said catalysts.

**Claim 25 (new):** A method according to claim 17 or 23, wherein the selectivity or the enantioselectivity of catalyzed reactions is determined on the library.